



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,779	05/14/2001	Hans Kragl	Prinz 109	8165

7590

02/14/2002

COOK, ALEX, MC FARRON, MANZO,  
CUMMINGS & MEHLER, LTD.  
200 West Adams Street - Suite 2850  
Chicago, IL 60603-5206

EXAMINER

CUNEO, KAMAND

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 02/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

9/554779

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
--------------------	-------------	-----------------------	------------------

EXAMINER
----------

ART UNIT	PAPER NUMBER
----------	--------------

9

DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

### OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 1/24/02

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claims

- ☒ Claim(s) 1-30 is/are pending in the application.  
Of the above, claim(s) 7-9, 12-14, 16-19, 22-30, 11 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-6, 15, 20, 21 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

#### Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☒ The drawing(s) filed on 5/14/01 is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

- ☒ Notice of Reference Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4 (2 pages)
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

## **DETAILED ACTION**

### ***Election/Restriction***

1. Applicant's election of Species 1A (figure 6), claims 1-24, in Paper No. 8 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 7-14, 16-19, 22-24 are objected to for not being drawn to the elected species of figure 6. These claims recite limitations not described with respect to the elected embodiment and not shown in figure 6. Accordingly, these claims are withdrawn from consideration as drawn to nonelected inventions. These claims can be rejoined and allowed if a generic claim is found allowable.

### ***Priority***

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 5/15/2000. It is noted, however, that applicant has not filed a certified copy of the application as required by 35 U.S.C. 119(b).

### ***Drawings***

4. The drawings are objected to for the following reasons.

The figures are improperly cross hatched. All of the parts shown in section, and only those parts, must be cross hatched. The cross hatching patterns should be selected from those shown on page 600-81 of the MPEP based on the material of the part. See also 37 CFR 1.84(h)(3) and MPEP 608.02.

In figure 6, element (22) is not labeled according to the last paragraph of page 12. Please label element (22) in figure 6.

Drawing corrections in compliance with MPEP 608.02(v) are required in response to this office action.

### *Specification*

5. The specification is objected to for the following reasons.

The specification is not in proper idiomatic English. Revision and correction of the specification is required.

The description of element (22) as the contact opening is misleading. Element (22) is neither an opening nor a contact element. Examiner suggests changing the description of element (22) to via or through hole or feedthrough.

Correction is required of these and any similar errors in response to this office action.

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Treatment of Claims Based on Language and Format*

7. 35 USC 112, second paragraph, states:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-6, 15, 20-21 are rejected under 35 USC 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 4-5, the positioning formations being on the first and second functional sides is misstated, because the formation (16) are only located on the first side. Correspondingly, describing the formations as a depression as in claims 4-5 lacks sufficient antecedent basis in the specification. If applicant intends to identify the depressions as formations, a second name, as well as a separate reference number must be used to describe it. Also, corresponding changes to the specification and drawings must be made.

### ***Treatment of Claims Based on Prior Art***

9. 35 USC 103(a) states:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Obviousness under 35 USC 103(a) is determined against a background established by the factual inquires set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), which are summarized in items 1-4 below.

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 USC 103(a), the examiner presumes that the subject matter of the various claims

was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 USC 103(c) and potential 35 USC 102(f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-6, 15, 20-21 are rejected under 35 USC 103(a) as being unpatentable over Haba (US 6188028, hereafter Haba).

Haba discloses layers (102) in figure 2 which have positioning formations (140) and corresponding depressions (122), wherein the formations of one layer engage the depression of another layer so that the layers are precisely positioned. Conductor grooves are formed on the layers as shown in figure (1).

Haba discloses the claimed invention except for specifying that the formations and conductors are of "micro" size. Nevertheless, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to make the size of the device of Haba micro size for small-size applications, because reduction of size of electrical components is old and well known. Further, it has been held that a change in size is generally within the level of ordinary skill. *In re Rose*, 105 USPQ 237.

Claims 3 and 5: The protrusion of Haba is not exactly in the shape of a pyramid: it has a stem portion. Nevertheless, Haba discloses various shapes for the this purpose. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to make the protrusions of Haba in the shape of pyramids, because Haba discloses that the selection of shape

is a matter of design choice and applicant has provided no indication that the pyramid shape is but an arbitrary selection of shape. Further, the shape of the protrusions of Haba and the pyramid shape are functionally equivalent in the device of Haba and in the claimed invention.

Claim 20: Element (116) is a conductive.

Claim 21: Haba does not disclose contact openings (filled vias) extending through the layers. Nevertheless, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to form filled vias in the layers to interconnect the circuit lines of one layer to another layer, because connection of circuit lines of different levels by filled vias is old and well known.

#### ***Allowable Subject Matter***

12. Claim 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>d</sup> paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art does not suggest the cooling groove and hear sink in the claimed combination.

#### ***Related Prior Art***

13. The following references are considered pertinent to the present application.

Feigenbaum et al. (5354205) and Budnaitis (631411) disclose pyramid protrusions.

Serial Number: 09/854779

7

Art Unit: 2827

*Closing*

14. Any inquiries related to the examination of this application should be directed to Ex. K. Cuneo at (703) 308-1233 or her supervisor SPE D. Talbott at (703) 305-9883. Inquiries of a general nature should be directed to the receptionist of Group 2800 at (703) 308-0956. The fax numbers for Group 2800 are (703) 308-7722 and 7724.



K. Cuneo  
Primary Examiner  
February 10, 2002